3260/4032 Print System

Student Training Manual

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COURSE SETUP

Course definition statement

This course provides service training for the 3260/4032 Print System.
It includes general knowledge, installation, maintenance, and troubleshooting.

Course scheduled time

This course is scheduled to run for 5 days.

Mode of instruction

This course is designed to be instructor-led with laboratory exercises.

Prerequisites

Prior to entering this course, the student should:

- know the xerography process as applied to laser printers

- be familiar with MS-DOS, understand general PC Concepts and Network Concepts

- have completed any low-end laser printer course

Course objectives

Given the appropriate tools and documentation, the student will, with no errors, demonstrate the ability to perform the following tasks on the 3260/4032 Print System.

(A) answer questions concerning the service and user documentation

(B) answer questions concerning the general knowledge of the printer and its options

(C) install and operate the printer

(D) answer questions concerning theory of operation

(E) disassemble and reassemble the printer and its options as well as perform all associated cleaning and adjustments

(F) perform diagnostic testing

(G) answer questions concerning preventive maintenance procedures

(H) troubleshoot instructor-installed problems

Student course materials

Each student should have each of the following course materials:

- 3260/4032 Print System Student Training Manual

- 3260/4032 Print System Service Manual

- 3260/4032 Print System Getting Started Manual (when available)

- 3260/4032 Print System Operation Manual (when available)

- 3260/4032 Print System Options Manual (when available)

- 3260/4032 Print System Reference Manual (when available)

- 3260/4032 Print System Quick Setup Guide (Engine and Options)

- 3260/4032 Print System Product Specification Sheet

Student workstation materials

Each workstation is designed to accommodate one or two students as determined by class size. Each workstation requires the following materials:

- one 3260/4032 print engine with video controller PWB
- two power cords
- two 500-sheet paper cassettes
- one optional large-capacity input feeder
- one optional large-capacity output stacker/finisher
- one optional envelope feeder
- one optional duplexer
- one 3260/4032 toner cartridge
- one standard tool kit
- 8-1/2" x 11" paper

Classroom materials

The classroom should contain the following materials to be shared by the workstations:

- laptop (as needed)
- 3260/4032 Print System Sales Presentation (if available)

NOTE: Additional items can be provided by special request

MODULE 1. COURSE INTRODUCTION

A. Module Objectives

(1)   Module Objectives

References: **None**

Direction: **Read over the module objectives in the table below.**

MODULE OBJECTIVES	
OBJECTIVE #	**After completing this module, the student will, with no errors…**
1	answer questions concerning the purpose and scope of this course
2	answer questions concerning the equipment covered
3	answer questions concerning the course flow
4	answer questions concerning the course schedule
5	answer questions concerning student safety instructions

B. Overview of Course

(1)   Course purpose and scope

   References: None

   (A)   This course provides service training for the 3260/4032 Print System.

   (B)   Service includes:

   - Knowledge of equipment

   - Installation

   - Operation

   - Maintenance

   - Troubleshooting

(2)   Equipment covered

   References: None

   (A) This course covers the 3260/4032 Print System, its optional components, and its MINOLTA-QMS video controller PWB.

(3)   Course scheduled time

   References: None

   (A) This course is scheduled to run for five days in a classroom environment.

   (B) Standard 8:00-5:00 working hours are observed during the course.

(4)   Course flow

   References: None

   Direction: Read over the course flow in the table on the following page.

3260/4032 Print System Printer Course Flow	
MODULE #	**MODULE NAME**
1	COURSE INTRODUCTION
2	GENERAL KNOWLEDGE OF EQUIPMENT
3	USER OPERATION AND INSTALLATION
4	THEORY OF OPERATION
5	DISASSEMBLY
6	PREVENTIVE MAINTENANCE
7	CHECKS AND ADJUSTMENTS
8	TROUBLESHOOTING

C. Course Safety

(1)   3260/4032 Print System course laser safety

References: None

***NOTE: Safety is important regardless of the printer you are working on,
because you never fully know the capability of the printer to inflict damage.
Therefore, the following safety information and instructions are provided to
Help prevent any injury.***

(A) The laser in the 3260/4032 Print System is a Class 3B, 5-milliwatt semiconductor laser.

(B)   The laser beam is invisible.

(C) Looking into a laser beam (direct or reflected) could permanently damage your
eyes.

(2) 3260/4032 Print System student safety instructions

References: None

Direction: **Do the exercise in the table on the following page and then read the
safety instructions.**

STUDENT SAFETY EXERCISE	
THE ANSWER TO THE FOLLOWING QUESTION…	**IS…**
1. Is the laser inside the 3260/4032 Print System visible or invisible?	
2. A reflected laser beam can permanently damage your eyes. (True or False)	

STUDENT SAFETY INSTRUCTIONS	
SAFETY INSTRUCTION #	**STATES THAT…**
1	Neckties should be either clipped or tucked into the shirt, or a lab coat should be worn.
2	All jewelry should be removed from hands and arms.
3	Never place any tools or reflective objects in the path of the laser.
4	Never look into the path of the laser beam (direct or reflected)
5	Never operate the laser with its beam exposed unless required by a maintenance procedure.

D. End of Module Questions

(1)   Questions

References: None

Direction: Answer the End of Module Questions that follow. When finished, have the course administrator verify your answers. Also discuss with your course administrator any questions you may have related to the current module.

(1)   A reflected laser beam can _____ your eyes.

(2)   The laser beam in the 3260/4032 Print System is (visible) (invisible).

(3)   You should <u>never</u> look directly into the path of a laser beam. (True) (False)

(4)   You should <u>never</u> place mirrors, optical instruments, or bright tools in the path of a laser beam. (True) (False)

(5)   You should <u>never</u> operate the laser with its beam exposed unless required by a maintenance procedure. (True) (False)

(End of module)

MODULE 2. GENERAL KNOWLEDGE OF EQUIPMENT

A. Module Objectives

(1)   Module Objectives

      References: None

      Direction: Read over the MODULE OBJECTIVES in the table below.

MODULE OBJECTIVES	
OBJECTIVE #	**Given the appropriate tools and documentation, the student will, with no errors, demonstrate the ability to perform the following tasks on the 3260/4032 printer.**
1	Identify the 3260/4032 printer and its optional components
2	Answer questions concerning company involvement
3	Answer questions concerning basic configuration and options
4	Answer questions concerning printer specifications
5	Answer questions concerning printer orientation
6	Locate the printer's major external components
7	Locate the printer's major internal components

B. Overview of Printer

(1)   Name of printer

References: 3260/4032 Print System Product Specification Guide

(A)   The MINOLTA-QMS product line of 3260/4032 Print System laser printers is:

- 3260/4032 Print System
- 3260/4032 Print System EX
- 3260/4032 Print System ImageServer

(B)   The Xerox version of the print engine is the:

- N32 DocuPrint System

(C)   The print system is built on the Xerox P2HI engine. It is capable of printing 32 PPM (letter/A4 simplex).

(2)   Identifying the 3260/4032 Print System

References: None

Direction: If you have a 3260/4032 Print System sales presentation, watch it now.

(3)   Company Involvement

References: None
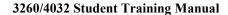
(A)   Fuji/Xerox manufactures the print engine.

(B)   MINOLTA-QMS designed the video controller and has it manufactured.

(C)   MINOLTA-QMS integrates the controller into the printer and ships the product.

(4)   Documentation

References: None

Direction: Briefly identify each document used in the course and insure that you Have a complete set of documentation as follows:

(A)   3260/4032 Print System Student Training Manual

(B)   3260/4032 Print System Service Manual (Volumes 1 & 2)

(C)   3260/4032 Print System Getting Started Manual

(Continued from previous page)

(D)   3260/4032 Print System Operation Manual

(E)   3260/4032 Print System Options Manual

(F)   3260/4032 Print System Reference Manual

(G)   3260/4032 Print System Quick Setup Guide (Engine and Options)

(H)   3260/4032 Print System Product Specifications Guide (if available)

C. Basic Configuration and Options

(1)   Basic 3260/4032 Print System printer configuration

References: None

The basic 3260/4032 Print System Printer is comprised of:

(A)   Fuji/Xerox P2HI print engine

(B)   3260/4032 Print System video controller PWB

(2)   3260/4032 Print System options

References: 3260/4032 Print System Product Specification Guide

(A)   The High Capacity Input Feeder handles 2,500 sheets of 20lb. Letter/A4 paper. Two 1,000-sheet trays and one 500 sheet tray.

(B)   The High Capacity Output Stacker can hold up to 2,000 sheets, offset jobs, and staple up to 50 pages at a time.

(C)   The duplexer allows for printing on both sides of the paper.

(D)   The envelope feeder can support DL, C5, Monarch, and Com – 10 envelopes.

(E)   The face-up exit tray provides another output stacking option.

(F)   The SC-100 digital scanner can convert the printer into a digital copier.

D. Specifications

(1)   General Specifications

References: 3260/4032 Print System Service Manual page(s) 15-1 through 15-14

Direction: Do the 3260/4032 printer SPECIFICATION EXERCISE in the following table. Fill in the blanks with the correct data.

3260/4032 Print System SPECIFICATION EXERCISE	
The	**for the 3260/4032 Print System is…**
Printing method	
Warm-up time	
Laser type	
Toner type	
Resolution	
Fusing method	
Exposure types	
Transfer charger type	
Paper sizes handled	
Paper sources	
Capacity of paper cassettes	
Maximum printable area	
Print delivery	

E. Toner and Print Speed

(1)   Toner

References: 3260/4032 Print System Product Specification Guide

(A)   The 3260/4032 printer uses a toner cartridge in its printing process. The toner cartridge is a monocomponent, dry toner cartridge.

(2)   Consumption of consumables

References: 3260/4032 Print System Service Manual (Volume 1)

(A)   The toner cartridge will yield up to 23,000 images at 5% coverage.

(3)   Printing speeds

References: 3260/4032 Print System Service Manual (Volume 1)

(A)   The 3260/4032 Print System-laser printer has a maximum printing speed of 32 pages per minute.

- This specification calls for letter/A4 paper being fed long edge first into the print Engine.

(B)   Other print speeds and page size specifications can be found on page 15-5 of the 3260/4032 Print System Service Manual.

F. Printer Size, Weight, Power

(1) Printer size, weight, and power

References: **3260/4032 Print System Service Manual page 15-2**

Direction: **Do the 3260/4032 Print System** PRINTER SIZE, WEIGHT, AND POWER **exercise in the table below.**

PRINTER SIZE, WEIGHT, AND POWER EXERCISE	
Referring to the 3260/4032 Print System Service Manual, the…	**of the 3260/4032 Print System is/are…**
Height	
Width	
Depth	
Weight	
Voltage	
Current	
Frequency	

G. Printer Environmental Conditions

(1)   Printer Environmental Conditions

References: **3260/4032 Print System Service Manual page 15-3**

Direction: **Do the ENVIRONMENTAL CONDITIONS EXERCISE in the table below.**

3260/4032 Print System ENVIRONMENTAL CONDITIONS EXERCISE	
The…	**of the 3260/4032 Print System is…**
OPERATIONAL CONDITIONS	
TEMPERATURE LIMITS	
HUMIDITY LIMITS	
NON-OPERATIONAL CONDITIONS	
TEMPERATURE LIMITS	
HUMIDITY LIMITS	
TRANSPORT AND STORAGE CONDITIONS	
TIME LIMIT	
TEMPERATURE LIMIT	
HUMIDITY LIMIT	

H. Location of Major External Components

(1) 3260/4032 Print System printer orientation

References: None

(A) The front of the printer is where you will find the paper cassette slots. The rear, right, and left sides are referenced from the front.

(2) Location of major external components

References: None

Direction: **Do the EXTERNAL COMPONENTS EXERCISE in the table below. You are to locate each item on your lab printer and check off each item as it is located.**

3260/4032 Print System EXTERNAL COMPONENTS EXERCISE	
The…	**has been located on the 3260/4032 Print System**
ON THE FRONT	
Paper cassettes	
ON THE TOP	
Operator panel	
Paper exit unit	
Top cover	
Main power switch	
ON THE LEFT SIDE	
The MSI	
Paper transport cover	
ON THE REAR	
Power receptacle	
MINOLTA-QMS I/O panel	

I. Location of Major Internal Components

(1)   Location of Major Internal Components

References: None

Direction: **Do the 3260/4032 Print System INTERNAL COMPONENTS EXERCISE in the Table below. You are to locate each item on your lab printer and check off each item as it is located.**

NOTE: *This exercise does not present all the internal components.*

3260/4032 Print System INTERNAL COMPONENTS EXERCISE	
The…	**has been located on the 3260/4032 Print System**
UNDER THE TOP COVER	
MINOLTA-QMS video controller PWB	
ROS (Raster Output Scanner)	
UNDER THE PAPER EXIT UNIT	
Fuser	
BTR (Bias Transfer Roll)	
BEHIND THE FRONT COVER	
Toner cartridge	
Paper feed rollers	

J. End of Module Questions

(1)   End of Module Questions

References: None

Direction: Answer the end of module questions that follow. When finished, have the course administrator check your answers. Also discuss with the course administrator any questions pertaining to the current module.

(1)   The warm-up time from sleep-mode on the 3260/4032 Print System is _____ seconds.

(2)   The standard resolution of the 3260/4032 Print System is _____ x _____ dots per inch.

(3)   The 3260/4032 Print System comes standard with (1) (2) (3) paper trays.

(4)   The 3260/4032 Print System standard paper cassette holds (250) (500) sheets of paper.

(5)   The 3260/4032 Print System toner cartridge is capable of producing up to _____ images.

(End of module)

MODULE 3. USER OPERATION AND INSTALLATION

A. Module Objectives

(1)   Module Objectives

References: None

Direction: **Read the MODULE OBJECTIVES in the table below.**

MODULE OBJECTIVES	
OBJECTIVE #	**Given the appropriate tools and documentation, the student will, with no errors, demonstrate the ability to perform the following tasks on the 3260/4032 Print System.**
1	Perform basic printer operations, such as • Switching the printer on and off • Refilling the printer with paper • Clearing paper jams • Replacing the toner cartridge
2	Operate and answer questions concerning the operation of the printer control panel and its: • Printer and menu control keys • Menu tree
3	Install and operate the printer from a host computer
4	Answer questions concerning the printer's standard and advanced status pages
5	Install the optional components to the printer
6	Install the printer's operating system software

B. Operation of Printer

(1) Powering on and off

References: None

(A) To turn the power on, set the power switch to ON.

(B) To turn the printer off, turn the power switch to OFF.

(2) Refilling paper

References: None

(A) Remove the paper cassette from the printer.

(B) Fan the paper before placing it into the paper cassette.

(C) The paper cassette is adjustable and can handle paper sizes of letter, legal, ledger, executive, statement, folio, A3, and A4.

(3) Clearing paper jams

References: 3260/4032 Print System Operation Manual pages 4-7 through 4-26

(A) There are several accesses to the interior of the printer through which paper jams can be cleared. Places to look for jams are:

- paper cassette slot

- paper transfer assembly

- between the fuser rollers

(B) If paper is jammed between the fuser rollers, refer to page 4-9 of the 3260/4032 Print System Operation Manual, and lift the indicated lever several times until the paper can be removed easily.

C. Control Panel

(1)   Control panel displays and LEDs

References: None

Direction: Referring to the control panel on your lab printer, study the display and LEDs as follows:

(A)   Control panel display (message window)

- Composed of two 16-character lines

- Used to display printer status messages, menu tree items, and engine error codes

(B)   Four LED indicators

- **ONLINE LED:** When lit, the printer is online and ready to accept data

- DATA LED: When lit, the printer is receiving data through one or more interfaces

- **MESSAGE LED:** When lit, the printer requires operator intervention

- **DISK LED:** When lit, the printer is accessing the internal or external hard disk

(2)   Control panel keypad

References: None

Direction: Use the control panel on your lab printer, view the keypad functions:

(A)   The control panel has eight keys.

(B)   Their functions are as follows:

- **ONLINE**: Is used to toggle the printer between online and offline status. When lit, the printer is online.

- **PRINT STATISTICS**: Allows the user to print a special page that shows you the statistics of printer supplies such as toner and paper.

- **PRINT STATUS**: Allows the user to print a status page from the MINOLTA-QMS controller

- **CANCEL**: Is used to cancel one or more print jobs. It can be used while the printer is online.

- **MENU:** Provides access to the configuration menu.

2 cont.

- **SELECT**: Accesses a menu or chooses displayed option.

- **PREVIOUS**: Returns to the previous selection or option for the current menu.

- **NEXT**: Advances to the next selection or option in the current menu.

D. Menu Structure

(1)   The menu structure

References: 3260/4032 Print System Operation Manual (pages B-2 through B-10)

Direction: Determine the structure of the 3260/4032 Print System menu as determined below. Do not power up and run through the menu at this time. You will do this in one of the lab exercises that follow.

(A)   To enter the menu, take the printer offline and press MENU.

(B)   The 3260/4032 Print System menu is hierarchical.

(C)   The first level has the following three functions:

- Operator Control, Administration, and Installation (appears only with security card installed)

(D)   The Installation function has the following four second-level functions:

- Operator Password, Use Operator PWD, Admin Password, and Use Admin PWD

(E)   The Operator Control function has the following fifteen second-level functions:

- Copies, Duplex, Output Finishing, Chain Output Bins, Offset Stacking, Collation, Orientation, Input Bin, Output Bin, Face-Up Order, Chain Input Bins, Chain Option, Multipurpose Sz, Accounting, and Consumables.

(F)   The Administration function has the following nine second-level functions:

- Communications, Emulations, Special Pages, Startup Options, Memory, Engine, Consumables, Miscellaneous, and Disk Operations.

(2)   How to navigate the menu

     References: None

     Direction: **Determine how to navigate the menu as explained below. Do not power up the printer and run through the menu at this time. You will do this in one of the lab exercises later.**

     (A)   To enter the menu, take the printer offline and press the MENU key.

     (B)   To scroll through the functions on this level, use the PREVIOUS and NEXT keys.

     (C)   To drop to the next level, press the SELECT key.

     (D)   To return to the previous level, press the MENU key.

     (E)   To make a selection or answer a yes or no prompt, press the SELECT key.

     (F)   To enter values, use the SELECT key to position the cursor to the value to be changed, then use the PREVIOUS and NEXT keys to enter the new value. Then use the SELECT key to select the function or value.

     (G)   To exit the menu, press the MENU key until returning to Idle, or press the ONLINE key, which will cause you to exit from the menu immediately.

     (H)   If you made changes, the system will ask if you want to save the changes when you exit the menu. Choose either Yes or No, then press SELECT.

     (I)   After exiting the menu, remember that the printer does not automatically return to the online state. You must press the ONLINE key.

D. Menu Structure

(1)   Menu structure lab

     References: 3260/4032 Print System Getting Started Manual (Chapter 4)

     Direction: **Fill in the blanks in the exercise on the following page(s). Check your answers with the course administrator. Ask you course administrator any questions pertaining to the current module.**

3260/4032 Print System MENU STRUCTURE LAB

STEP #	USING YOUR 3260/4032 Print System LAB PRINTER, FILL IN THE BLANKS BELOW.
1	Enter the menu and scroll through the first-level functions. List the names of the functions found.
2	Choose the Operator Control function and drop to the second-level functions. List the names of the second level functions.
3	Go back to the first-level functions, choose the Administration function, and drop to the second-level functions. List the names of these second-level functions.
4	Using the 3260/4032 Print System menu, print a standard and advanced status page. Write the major sections of the advanced status page below.
5	Using the 3260/4032 Print System menu, perform the following tasks. 1. Print a calibration page. 2. Set the PS Wait Timeout to 330 seconds. Confirm with a status page. 3. Restore the printer to factory defaults. Confirm with a status page.

E. Installation

(1)   Clearances

References: 3260/4032 Print System Service Manual (page 15-2)

(A)   The 3260/4032 Print System is 486 mm high, 642 mm wide (MSI installed), and 523 mm deep.

(2)   Contents of the shipping package

References: None

(A)   The hardware items shipped with the 3260/4032 Print System are:

- One print engine
- Two 500-sheet paper cassettes
- One power cord
- One toner cartridge

(B)   The software items, manuals, etc., shipped with the 3260/4032 Print System printer are:

- MINOLTA-QMS Software Utilities CD-ROM
- 3260/4032 Print System Print System Documentation CD-ROM
- 3260/4032 Print System Quick Setup Guide (Engine and Options)
- 3260/4032 Print System Getting Started Manual
- 3260/4032 Print System Operation Manual
- 3260/4032 Print System Options Manual
- 3260/4032 Print System Reference Manual
- Warranty and registration card

(3)   Finding a good location

References: 3260/4032 Print System Getting Started Manual

(A)   When placing the printer, be sure that it is level. This prevents problems such as the toner flowing to one end of the toner cartridge, which results in uneven development.

E. Installation cont.

(4) Unpacking

References: 3260/4032 Print System Getting Started Manual

(A) Remove the outer carton of the printer by cutting the straps, unlocking the carton locks, and lifting the carton off of the printer.

(B) Remove the toner cartridge package and the manuals. Then place the printer in its operating position.

NOTE: When lifting the printer, insure that it is lifted by its four corners with equal force. This requires four hands. Do not lift the printer with two hands as this will place undue stress on the print engine chassis as well as the person doing the lifting.

(C) After the printer is in its operating position, insure that all of the packing material is removed from the printer.

(5) Installing the toner cartridge

References: 3260/4032 Print System Getting Started Manual

(A) Open the toner cartridge packaging and install according to the 3260/4032 Print System Quick Setup Guide.

NOTE: Shake the toner cartridge side to side before installing. Also, don't forget to remove plastic retaining strip from the side of the toner cartridge.

(6) Finishing the setup

References: 3260/4032 Print System Getting Started Manual

(A) Load several sheets of paper into the paper cassette.

(B) Make sure that the paper guide in the cassette is set to the proper paper size.

(C) Connect the printer to a power source and set the power switch to on. Let the printer warm-up and initialize.

(D) When the printer is finished with its warm-up, it should print a start-up page.

E. Installation (Connectivity) cont.

(1) Installation to the host

References: 3260/4032 Print System Getting Started manual (pages 3-2 to 3-20)

(A) To install the 3260/4032 Print System printer to a host, the following major steps must be done:

- Cable the printer to the host computer
- Configure the printer
- Configure the host
- Test the connection

(2) The 3260/4032 Print System I/O ports

References: None

(A) The 3260/4032 Print System has three standard I/O ports:

- IEEE 1284 Centronics parallel port
- RS-232 serial port
- MINOLTA-QMS CrownNet Ethernet

(B) The 3260/4032 Print System has provisions for an additional I/O port that can be configured as any of the ports below.

- CrownNet Ethernet
- CrownNet Token Ring
- DECnet/TCP/IP
- LocalTalk
- SCSI

NOTE: The optional SCSI port can be used for either connecting up to three external hard drives or for connecting a MINOLTA-QMS SC-100 digital scanner.

NOTE: CrownNet for Ethernet can support both 10BaseT and 100BaseTX.

(3) Installation lab

References: 3260/4032 Print System Getting Started Manual (pages 3-2 through 3-15)

Direction: **Connect the printer to a host computer and print a job from the host computer's hard drive to the printer.**

F. Operating System Software

(1)   Operating system software

References: 3260/4032 Print System Operations Manual page 5-32

(A)   The operating system for the 3260/4032 Print System Printer is located in Flash ROM on the controller PWB. Flash ROM is read only memory that can be erased and rewritten.

Updated operating system software is designed to overwrite the previous version of system software when properly installed. There are 3 ways to load system code to a printer. They are:

1)   From a PC or laptop through the parallel port.
2)   From a Macintosh
3)   Using an FTP session to PUT the file to the printer.

(B)   Loading the system code using a Macintosh or an FTP session requires the printer to be functional. Using the PC or laptop and downloading through the parallel port works for a non-functional printer.

(2)   Downloading System Software

References: MINOLTA-QMS website

(A)   **Parallel:**
   1.   Download the MINOLTA-QMS printer system code into any working/temporary directory on your PC hard drive.
   2.   Turn the printer on and wait until it is idle or turn the printer on while holding any 2 keys down and the display will show "Download image" (non-functional printer).
   3.   Verify the connection of the parallel cable.
   4.   On the PC or laptop go to the DOS prompt or boot the computer into DOS mode.
   5.   Go to the directory where you downloaded the file earlier.
   6.   At the DOS prompt type "copy /b system.ps lpt1" where system.ps is the system code downloaded in step 1.
   7.   Press the "enter" key.

Caution: Wait 30 minutes. The printer should reboot. The Startup page will reflect the new version of code.

(B)   **Over the network(TCP/IP):**
   1.   Download the MINOLTA-QMS printer system code into any working/temporary directory on your PC hard drive.
   2.   On the PC go to a DOS prompt.
   3.   Type "ftp xxx.xxx.xxx.xxx", where xxx.xxx.xxx.xxx is the IP address of your printer.
   4.   You will be prompted for a username ... press 'Enter' key.
   5.   You will be prompted for a password ... press 'Enter' key.
   6.   Type in "binary' and press" Enter' key.
   7.   Type in "put system.ps" and press 'Enter' key.

Caution: Wait 30 minutes. The printer should reboot. The Startup page will reflect the new version of code.

F. Operating System Software cont.

(C) **From a Unix Box:**
1. Download the MINOLTA-QMS printer system code.
2. We will assume the name of the file is system.ps.
3. From this directory, ftp to the printer by typing "ftp xxx.xxx.xxx.xxx" (without the quotes), where the X's are the actual IP address of the printer.
4. You will be prompted for a User name, press "Enter."
5. You will be prompted for a password, press "Enter."
6. Type in "bin" (without the quotes) at the ftp prompt.
7. Type "put system.ps," (without the quotes), then press enter

Caution: Wait 30 minutes. The printer should reboot. The Startup page will reflect the new version of code.

(D) **From a Macintosh:**
1. You can download the 'MINOLTA-QMS Printer Utility' mentioned below at the MINOLTA-QMS web site (ftp://ftp.minolta-qms.com/pub/crc/out_going/).
If you would like to use an Adobe product, you can download their software at http://www.adobe.com.

   I. Download the latest version of the MINOLTA-QMS printer system code.

   II. Using 'MINOLTA-QMS Printer Utility' or Adobe Downloader, send the code to the printer.

2. Using the "MINOLTA-QMS Printer Utility."
   A. Open the "MINOLTA-QMS Printer Utility" application.
   B. Select your printer in the "MINOLTA-QMS Printer Utility" window.
   C. Choose "Send Postscript File..." from the "File" menu.
   D. Choose "Browse" and locate the file you downloaded from our FTP site. Select the name of the file.
   E. Choose "Done."
   F. Choose "Print."

Caution: Wait 30 minutes. The printer should reboot. The Startup page will reflect the new version of code.

3. Using "Adobe Downloader."
   A. Select the printer you wish to upgrade in the "Chooser."
   B. Open the "Adobe Downloader" application.
   C. Choose "Download PostScript File..." from the "File" menu.
   D. Locate the file you downloaded from our FTP site. Select the name of the file.
   E. Select "Open."

Caution: Wait 30 minutes. The printer should reboot. The Startup page will reflect the new version of code

F. Operating System Software cont.

(3)   Operating system installation exercise

     References: 3260/4032 Student Training Manual

     **Direction: Do the 3260/4032 Print System OPERATING SYSTEM INSTALLATION
EXERCISE in the table below.**

	3260/4032 Print System OPERATING SYSTEM INSTALLATION EXERCISE
STEP #	**Install the operating system software on the 3260/4032 Print System as follows:**
1	Follow one of the procedures for updating the operating system software from the previous pages of the 3260/4032 Student Training Manual.
2	When the update is complete, the printer should reboot. The Startup page will reflect the new version of code
3	Once the operating system software has been loaded, run a STATUS PAGE to check what printer settings has been updated.
4	Your lab partner should now use the same procedure to return the printer to its original configuration.

G. High Capacity Input Feeder

(1)   High-capacity input feeder

   References: 3260/4032 Print System Options Manual & 3260/4032 Print System Service Manuals

   (A)   The high-capacity input feeder mounts under the print engine and has one 500 sheet paper cassette and two 1,000 sheet paper cassettes.

   (B)   The high-capacity input feeder is made up of several major components:

   - HCIF PWB

   - L/H interlock switch

   - Feed motor

   - Lift up motors 3, 4, and 5

   - Feed clutches 3, 4, and 5

   - Tray 3 and 4 paper take away sensors

   - Paper size sensors 3, 4, and 5

   - No paper sensors 3, 4, and 5

   - Paper level sensors 3, 4, and 5

(2)   High-capacity input feeder installation exercise

   References: 3260/4032 Print System Options Manual (pages 2-3 to 2-29)

   Direction: Do the 3260/4032 Print System HIGH CAPACITY INPUT FEEDER INSTALLATION EXERCISE in the table on the following page.

3260/4032 Print System HIGH-CAPACITY INPUT FEEDER INSTALLATION EXERCISE	
STEP #	**INSTALL THE HCIF AS FOLLOWS:**
1	Check the contents of the HCIF package for the following items: • Feeder unit • Two mounting brackets • Two thumbscrews
2	Lock the front roller in the HCIF. Set the printer on top of the HCIF while aligning the covers of the HCIF with the covers of the printer. Then remove the bottom tray of the printer and the top tray of the HCIF.
3	Install one of the mounting brackets to the left side of the printer/HCIF frame and secure it with a thumbscrew.
4	Install the other mounting bracket on the right side of the printer/HCIF frame and secure it with a thumbscrew.
5	Replace the paper trays and plug the connecting cable from thee HCIF to the rear of the printer.

I. Installing the High-Capacity Stacker

(1)   Installing the High-Capacity Stacker

References: 3260/4032 Print System Options Manual (pages 2-3 to 2-29)

Direction: Go through the entire procedure for installing the High Capacity Stacker.

HIGH CAPACITY STACKER INSTALLATION EXERCISE

Attach the High Capacity Stacker according to the procedure just reviewed. When done, print a job from the bottom tray of the HCIF to the bottom tray of the HCS.

J. Installing the Face-up Tray

(1)   Installing the Face-up Tray

References: 3260/4032 Print System Options Manual (pages 2-3 to 2-29)

Direction: Go over the entire procedure for installing the Face-up Tray.

NOTE: The procedure is different if there is a duplexer already installed. Refer to pages 2-3 through 2-29 of the 3260/4032 Print System Options Manual.

Face-up Tray Installation Exercise

Using the procedure in the 3260/4032 Print System Options Manual, install the face-up tray. When done, print a job to the face-up tray.

K. Installing the Duplexer

(1)   Installing the Duplexer

References: 3260/4032 Print System Options Manual (pages 2-8 through 2-10)

**Direction: Go over the procedure for installing the duplexer. Then proceed to the
                installation exercise.**

DUPLEXER INSTALLATION EXERCISE

Install the duplexer according to the procedure in the 3260/4032 Print System Options
Manual. Then print a duplex job to the HCS.

L. Installing the Envelope Feeder

(1)   Installing the Envelope Feeder

References: 3260/4032 Print System Options Manual (pages 2-8 through 2-10)

**Direction: Go over the entire procedure for installing the envelope feeder. Then
                proceed to the installation exercise below.**

ENVELOPE FEEDER INSTALLATION EXERCISE

Using the procedure in the 3260/4032 Print System Options Manual, install the envelope
feeder on the printer.

M. End of Module Questions

(1)   End of Module Questions

References: None

Direction: Answer the END OF MODULE that follows.   When finished, have the course administrator check your answers. Also discuss with your course administrator any questions you have pertaining to the current module.

(1)   To make the paper transport unit of the HCS stand horizontally, you must first

    _____ .

(2)   When lifting the 3260/4032 Print System Printer, be sure that all four corners are lifted simultaneously to prevent warping of the frame. (True or False)

(3)   The SCSI I/O port can support either _____ or _____ options on the 3260/4032 Print System.

(4)   What is the margin of error allowed when leveling the printer? _____

(5)   The maximum length of a parallel cable within specification is _____ .

(6)   The operating system software is stored in _____ .

(End of module)

MODULE 4. THEORY OF OPERATION

A. Module Objectives	
OBJECTIVE #	**Given the proper tools and documentation, the student will, with no errors…**
1	Define the operating parameters of the 3260/4032 Print System print engine and all of its optional components.
2	Answer questions related to the theory of operation of the 3260/4032 Print System printer and all of its optional components.

B. Printer Power

(1)   Printer Power

References: Pages 13-2 through 13-4 of the 3260/4032 Print System Service

   (A)   The printer power system is made up of five main components:

      1.   Noise Filter PWB

      2.   AC Driver PWB

      3.   Low Voltage Power Supply

      4.   Machine Control Unit

      5.   High Voltage Supply

C. Printer Control

(1)   Printer Control

References: Pages 13-5 through 13-35 of the 3260/4032 Print System Manual

   (A)   Printer control is comprised of the MCU and numerous connected components. We will cover these components and associated error codes directly from the service manual.

D. Mechanical Drive

(1) Mechanical Drive

References: Pages 13-36 through 13-40 of the 3260/4032 Print System Service Manual

(A) The mechanical drive system is made up of four major components:

1. Offset Motor

2. Main Drive Assembly

3. Lift Up Motor 1

4. Lift Up Motor 2

E. The Paper Path

(1) The Paper Path

References: Pages 13-41 through 13-53 of the 3260/4032 Print System Service Manual

(A) The paper path is made up of nine major components and numerous sub-components:

1. Tray Assembly

2. Feeder 1 and 2

3. MSI Feeder

4. Registration Roll and Pinch Roll

5. Registration Sensor

6. Drum and BTR (Bias Transfer Roll)

7. Heat and Pressure Roll

8. Fuser Exit Sensor

9. Offset and Exit Unit

F. The ROS (Raster Output Scanner)

(1) The ROS

References: Pages 13-54 through 13-59 of the 3260/4032 Print System Service Manual

(A) The ROS is a self-contained component that houses seven sub-components:

1. Laser Diode Assembly

2. Corrective Lenses and Angled Mirror

3. Polygon Mirror

4. Scanner Motor Assembly

5. Wide Lens

6. Drum Mirror

7. SOS PWB

(B) We will also cover ROS operation, image resolution, ROS control, laser hazards, and ROS safeguards.

G. Xerographic

(1) Xerographic

References: Pages 13-60 through 13-77 of the 3260/4032 Print System Service Manual

(A) The Xerographic process consists of seven steps:

1. Charge

2. Expose

3. Develop

4. Transfer

5. Detack

6. Clean

7. Discharge

(B)   We will also cover the components involved with the steps of Xerography.

H. End of Module Questions

(1) End of module questions

References: None

Direction: Answer the end of module questions below. When finished have the course administrator check your answers. Also discuss with the course administrator any questions pertaining to the current module.

1. What is the function of the Bias charge Roll?

   _____

2. List in order, the steps of the xerography process.

   _____

   _____

3. How is print image resolution determined?

   _____

   _____

4. What component is responsible for laser power monitoring and adjustment?

   _____

5. What is the function of the Offset Unit as it relates to the Paper Path?

   _____

MODULE 5. DISASSEMBLY

A. Module Objectives

(1) Module Objective
 	
    References: none
 	
    Direction: Read over the Module Objectives in the table below.

MODULE OBJECTIVES	
OBJECTIVE #	**Given the appropriate tools and documentation, the student will, with no errors, demonstrate the ability to perform the following tasks on the 3260/4032 printer.**
1	Identify the major internal subassemblies and components of the 3260/4032 printer and it's optional components.
2	Locate all electrical parts and their functions of the 3260/4032 printer.
3	Disassemble and reassemble the printer to the subassembly/component level such that any field serviceable subassembly or component can be replaced.
4	Perform any cleaning and/or adjustments required with the reassembly of the 3260/4032 printer.

B. Directions for disassembly lab

(1) Covers, panels and screws

References: none

A. Covers and panels

- When you finish this module, **DO NOT REPLACE THE COVERS ON THE PRINTER!** They must remain off during the remaining modules.

B. screws

- The 3260/4032 printer uses several different kinds of screws in its assembly. When disassembling the 3260/4032 printer, **PLEASE! KEEP THE SCREWS WITH THEIR RESPECTIVE ASSEMBLY** to ensure that the screws are replaced in their original holes.

(2) ESD and test prints

References: None

A. ESD procedures

- The 3260/4032 printer uses static-sensitive PWBs. **USE ESD PROCEDURES WHEN HANDLING PWBS!**

B. Test prints

- To ensure that your lab 3260/4032 printer is running before you start the dis-assembly, **ENSURE THAT A RECENT TEST PRINT OR START-UP PAGE HAS BEEN RUN!**

C. Print Engine Disassembly Lab

(1) Disassembly Lab

References: 3260/4032 Service Manual Pages 10-1 through 10-153

Direction: *Do the 3260/4032 Printer PRINT ENGINE DISASSEMBLY LAB in the table below. Perform the tasks in the order given. For detailed disassembly procedures, refer to the 3260/4032 Service Manual, chapter 10.*

3260/4032 PRINT ENGINE DISASSEMBLY LAB

STEP	TASK
1	Remove the following items (if present): • Optional paper feeder • Power Cord • I/O cables • Paper cassette • OPC Cartridge (protect from any direct light) • MINOLTA-QMS controller (2 screws, pullout) • High Capacity Stacker • Envelope Feeder
2	Remove the Fusing Assembly (**Caution:** may be hot). • RRP 6.1 page 10-102 of the 3260/4032 Service Manual
3	Remove the ROS Assembly (**Note:** there are no serviceable parts inside unit). • RRP 5.1 page 10-92 of the 3260/4032 Service Manual
4	Remove the AC Driver PWB. • RRP 9.3 page 10-137 of the 3260/4032 Service Manual
5	Remove the Main Drive Assembly. • RRP 8.1 page 10-131 of the 3260/4032 Service Manual
6	Remove the High Voltage Power Supply PWB. • RRP 9.4 page 10-137 of the 3260/4032 Service Manual
7	Remove the Noise Filter. • RP 9.5 page 10-141 of the 3260/4032 Service Manual

MODULE 6. PREVENTIVE MAINTENANCE

A. Preventive Maintenance

(2) Preventive Maintenance

References: None

Direction: **There is no scheduled preventive maintenance for this printer. It is performed on an as needed basis only. We will go over the areas to clean on/in the machine.**

MODULE 7. DIAGNOSTICS, CHECKS, AND ADJUSTMENTS

A. Diagnostics, Checks, and Adjustments

(1)   Diagnostics, Checks, and Adjustments

      References: Pages 7-2 through 7-7, 8-2 through 8-24, and 9-1 through 9-9 of the 3260/4032 Print System Service Manual

  (A)   The 3260/4032 Print System has built in diagnostics in the MCU PWB. You can use the diagnostic mode to check the following:

     1.   Check the operation of switches and sensors

     2.   Test various motors, solenoids, and clutches

     3.   Generate test patterns to check printer operation and xerographic functions

     4.   View and change printer settings

  (B) Follow the procedures on page 7-2 through 7-7of the 3260/4032 Print System Service Manual to access the printer diagnostic mode. Refer to Chapter 8 in the service manual to run the tests specified in the table below.

Printer Diagnostic Exercise

Run the following tests in diagnostic mode on the 3260/4032. Check off each item in the table below as you complete it. Be sure to ask your course administrator any questions you may have.

CHAIN/FUNCTION	RESULT	COMPLETED
9/26		
7/18		
8/15		

B. Adjustments

(1)   Adjustments

References: Section A of this module and Chapter 9 of the service manual

Adjustments Exercise

Follow the instructions provided in Chapter 9 of the service manual to perform the adjustments listed below. As each adjustment is completed, show the results to the course administrator before proceeding to the next adjustment.

CHAIN/FUNCTION	RESULT	COMPLETED
20/13		
23/42		

MODULE 8. TROUBLESHOOTING

A. Troubleshooting

(1)   Troubleshooting

References: None

(A) Troubleshooting will consist of instructor placed "bugs" in the printers and/or their options. You will be responsible for restoring the printer/optional component to its original operating state. You are permitted to use any documentation you have received in the course of the training class. If you feel that you require additional documentation or instruction, please see you course administrator.

You may be asked to leave the room for a short period of time while the machines are prepared. Do not wander off to somebody's desk, restroom, etc. without first checking with the course administrator.

GOOD LUCK!!!

(End of Training Module)